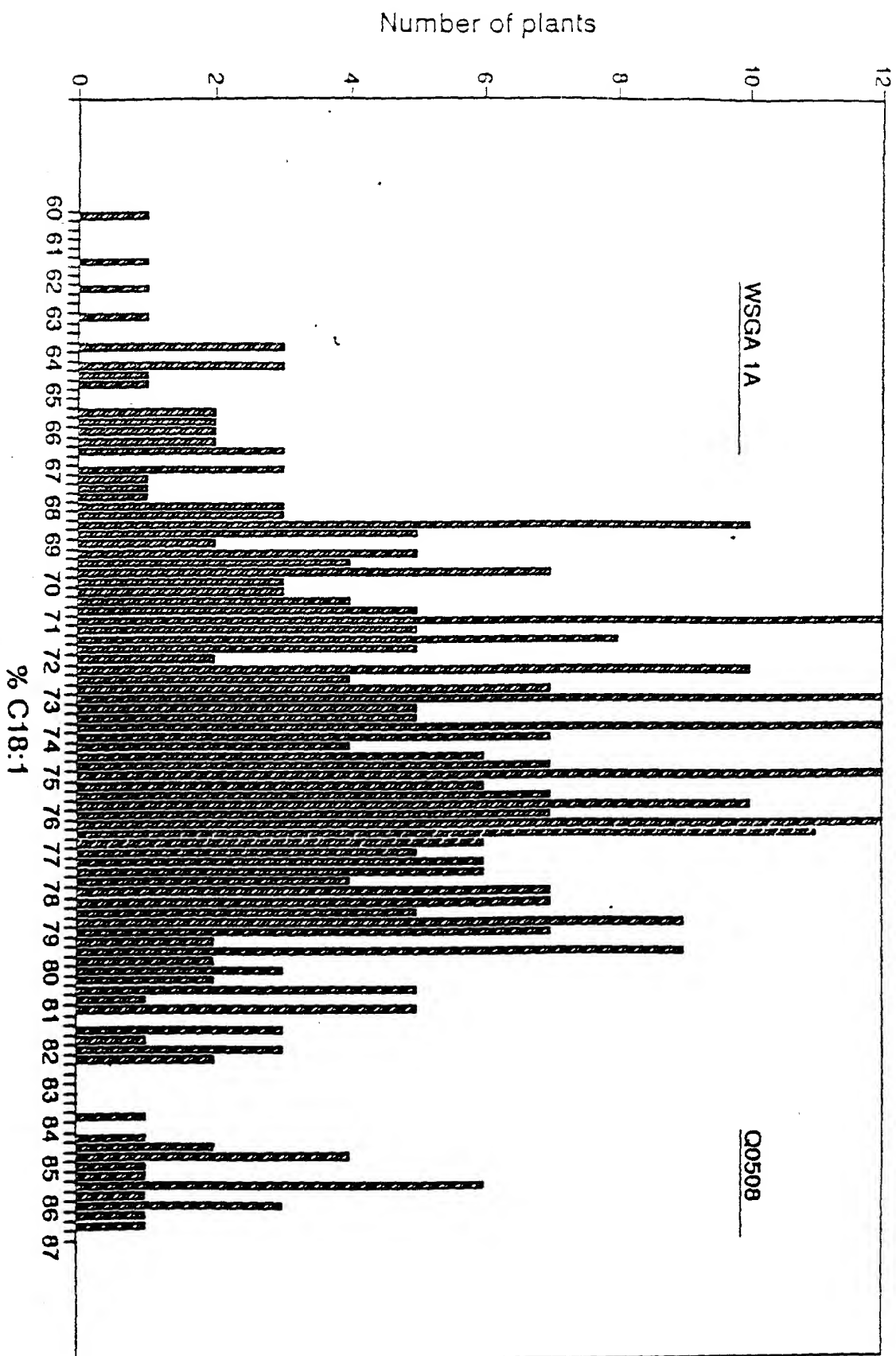


Fig. 1 C18:1 Frequencies
for 92EF (WSGA 1A X Q0508)



0971904 012901

		10	20	30	40	
1	ATGGG	GTGCAGG	TGGAAGA	ATGCAAG	TGTCTCCTC	CCTCCCA Fad2-D wt
1	ATGGG	GTGCAGG	TGGAAGA	ATGCAAG	TGTCTCCTC	CCTCCCA Fad2-D (GA316) IMC129
1	ATGGG	GTGCAGG	TGGAAGA	ATGCAAG	TGTCTCCTC	CCTCCCA Fad2-F wt
1	ATGGG	GTGCAGG	TGGAAGA	ATGCAAG	TGTCTCCTC	CCTCCCA Fad2-F (TA515) Q508
1	ATGGG	GTGCAGG	TGGAAGA	ATGCAAG	TGTCTCCTC	CCTCCCA Fad2-F (GA908) Q4275
		50	60	70	80	
41	AAAAG	TCTTGAA	ACCGACA	ACATCAAG	CGCGTACC	CCTGCCGA Fad2-D wt
41	AAAAG	TCTTGAA	ACCGACA	ACATCAAG	CGCGTACC	CCTGCCGA Fad2-D (GA316) IMC129
41	AGAAG	TCTTGAA	ACCGACA	ACATCAAG	CGCGTACC	CCTGCCGA Fad2-F wt
41	AGAAG	TCTTGAA	ACCGACA	ACATCAAG	CGCGTACC	CCTGCCGA Fad2-F (TA515) Q508
41	AGAAG	TCTTGAA	ACCGACA	ACATCAAG	CGCGTACC	CCTGCCGA Fad2-F (GA908) Q4275
		90	100	110	120	
81	GACAC	CGCCCTT	CACTGT	CGGAGA	ACTCAAG	AAAGCAATC Fad2-D wt
81	GACAC	CGCCCTT	CACTGT	CGGAGA	ACTCAAG	AAAGCAATC Fad2-D (GA316) IMC129
81	GACAC	CGCCCTT	CACTGT	CGGAGA	ACTCAAG	AAAGCAATC Fad2-F wt
81	GACAC	CGCCCTT	CACTGT	CGGAGA	ACTCAAG	AAAGCAATC Fad2-F (TA515) Q508
81	GACAC	CGCCCTT	CACTGT	CGGAGA	ACTCAAG	AAAGCAATC Fad2-F (GA908) Q4275
		130	140	150	160	
121	CCACC	GCAC	TGTTT	CAAAC	GGCTCG	ATCCCTCGGCTCTTTCT Fad2-D wt
121	CCACC	GCAC	TGTTT	CAAAC	GGCTCG	ATCCCTCGGCTCTTTCT Fad2-D (GA316) IMC129
121	CCACC	GCAC	TGTTT	CAAAC	GGCTCG	ATCCCTCGGCTCTTTCT Fad2-F wt
121	CCACC	GCAC	TGTTT	CAAAC	GGCTCG	ATCCCTCGGCTCTTTCT Fad2-F (TA515) Q508
121	CCACC	GCAC	TGTTT	CAAAC	GGCTCG	ATCCCTCGGCTCTTTCT Fad2-F (GA908) Q4275
		170	180	190	200	
161	CCTAC	CTCAT	CTGGG	GACAT	CATCAT	AGCCTCCTGCTTCTA Fad2-D wt
161	CCTAC	CTCAT	CTGGG	GACAT	CATCAT	AGCCTCCTGCTTCTA Fad2-D (GA316) IMC129
161	CCTAC	CTCAT	CTGGG	GACAT	CATCAT	AGCCTCCTGCTTCTA Fad2-F wt
161	CCTAC	CTCAT	CTGGG	GACAT	CATCAT	AGCCTCCTGCTTCTA Fad2-F (TA515) Q508
161	CCTAC	CTCAT	CTGGG	GACAT	CATCAT	AGCCTCCTGCTTCTA Fad2-F (GA908) Q4275
		210	220	230	240	
201	CTACG	TGCGC	ACCACT	TACTT	CCCTCT	CCTCCCTCAACCT Fad2-D wt
201	CTACG	TGCGC	ACCACT	TACTT	CCCTCT	CCTCCCTCAACCT Fad2-D (GA316) IMC129
201	CTACG	TGCGC	ACCACT	TACTT	CCCTCT	CCTCCCTCAACCT Fad2-F wt
201	CTACG	TGCGC	ACCACT	TACTT	CCCTCT	CCTCCCTCAACCT Fad2-F (TA515) Q508
201	CTACG	TGCGC	ACCACT	TACTT	CCCTCT	CCTCCCTCAACCT Fad2-F (GA908) Q4275
		250	260	270	280	
241	CTCTC	CCTACT	TTCGC	CTGGC	CTCTCT	ACTGGGGCCTGCCAGG Fad2-D wt
241	CTCTC	CCTACT	TTCGC	CTGGC	CTCTCT	ACTGGGGCCTGCCAGG Fad2-D (GA316) IMC129
241	CTCTC	CCTACT	TTCGC	CTGGC	CTCTCT	ACTGGGGCCTGCCAAG Fad2-F wt
241	CTCTC	CCTACT	TTCGC	CTGGC	CTCTCT	ACTGGGGCCTGCCAAG Fad2-F (TA515) Q508
241	CTCTC	CCTACT	TTCGC	CTGGC	CTCTCT	ACTGGGGCCTGCCAAG Fad2-F (GA908) Q4275

FIG. 2A

	290	300	310	320		
281	GCTGCGTCCTAACC	GGCGCTCTGGG	TCATAGCCC	ACGAGCTG	Fad2-D wt	
281	GCTGCGTCCTAACC	GGCGCTCTGGG	TCATAGCCC	ACAAGCTG	Fad2-D (GA316) IMC129	
281	GGTGGCGTCCTAACC	GGCGCTCTGGG	TCATAGCCC	ACGAGCTG	Fad2-F wt	
281	GGTGGCGTCCTAACC	GGCGCTCTGGG	TCATAGCCC	ACGAGCTG	Fad2-F (TA515) Q508	
281	GGTGGCGTCCTAACC	GGCGCTCTGGG	TCATAGCCC	ACGAGCTG	Fad2-F (GA908) Q4275	
	330	340	350	360		
321	CGGCCACCAACG	CCTTCAGCG	ACTACCA	GTGGCTGGAC	GAC Fad2-D wt	
321	CGGCCACCAACG	CCTTCAGCG	ACTACCA	GTGGCTGGAC	GAC Fad2-D (GA316) IMC129	
321	CGGCCACCAACG	CCTTCAGCG	ACTACCA	GTGGCTTGAC	GAC Fad2-F wt	
321	CGGCCACCAACG	CCTTCAGCG	ACTACCA	GTGGCTTGAC	GAC Fad2-F (TA515) Q508	
321	CGGCCACCAACG	CCTTCAGCG	ACTACCA	GTGGCTTGAC	GAC Fad2-F (GA908) Q4275	
	370	380	390	400		
361	ACCGTCGGGCCT	CATCTTCC	ACTCCTTC	CCTCCTCGT	CCCTT Fad2-D wt	
361	ACCGTCGGGCCT	CATCTTCC	ACTCCTTC	CCTCCTCGT	CCCTT Fad2-D (GA316) IMC129	
361	ACCGTCGGGTCT	CATCTTCC	ACTCCTTC	CCTCCTCGT	CCCTT Fad2-F wt	
361	ACCGTCGGGTCT	CATCTTCC	ACTCCTTC	CCTCCTCGT	CCCTT Fad2-F (TA515) Q508	
361	ACCGTCGGGTCT	CATCTTCC	ACTCCTTC	CCTCCTCGT	CCCTT Fad2-F (GA908) Q4275	
	410	420	430	440		
401	ACTTCTCCTTGG	AAGTACAGT	CATCGAC	GCCACCA	ATTCCAA Fad2-D wt	
401	ACTTCTCCTTGG	AAGTACAGT	CATCGAC	GCCACCA	ATTCCAA Fad2-D (GA316) IMC129	
401	ACTTCTCCTTGG	AAGTACAGT	CATCGAC	GCCACCA	ATTCCAA Fad2-F wt	
401	ACTTCTCCTTGG	AAGTACAGT	CATCGAC	GCCACCA	ATTCCAA Fad2-F (TA515) Q508	
401	ACTTCTCCTTGG	AAGTACAGT	CATCGAC	GCCACCA	ATTCCAA Fad2-F (GA908) Q4275	
	450	460	470	480		
441	CACTGGCTCCCT	TCGAGAG	AGACGA	AAGTGTT	TGTCCCCAAG Fad2-D wt	
441	CACTGGCTCCCT	TCGAGAG	AGACGA	AAGTGTT	TGTCCCCAAG Fad2-D (GA316) IMC129	
441	CACTGGCTCCCT	TCGAGAG	AGACGA	AAGTGTT	TGTCCCCAAG Fad2-F wt	
441	CACTGGCTCCCT	TCGAGAG	AGACGA	AAGTGTT	TGTCCCCAAG Fad2-F (TA515) Q508	
441	CACTGGCTCCCT	TCGAGAG	AGACGA	AAGTGTT	TGTCCCCAAG Fad2-F (GA908) Q4275	
	490	500	510	520		
481	AAGAAGTCAGAC	ATCAAGT	GGTACGG	CAAGTAC	CTCAACA Fad2-D wt	
481	AAGAAGTCAGAC	ATCAAGT	GGTACGG	CAAGTAC	CTCAACA Fad2-D (GA316) IMC129	
481	AAGAAGTCAGAC	ATCAAGT	GGTACGG	CAAGTAC	CTCAACA Fad2-F wt	
481	AAGAAGTCAGAC	ATCAAGT	GGTACGG	CAAGTAC	CTCAACA Fad2-F (TA515) Q508	
481	AAGAAGTCAGAC	ATCAAGT	GGTACGG	CAAGTAC	CTCAACA Fad2-F (GA908) Q4275	
	530	540	550	560		
521	ACCCTTTTGGG	ACGCAC	CGTGATG	TAAACGG	TTCAGTTCA	C Fad2-D wt
521	ACCCTTTTGGG	ACGCAC	CGTGATG	TAAACGG	TTCAGTTCA	C Fad2-D (GA316) IMC129
521	ACCCTTTTGGG	ACGCAC	CGTGATG	TAAACGG	TTCAGTTCA	C Fad2-F wt
521	ACCCTTTTGGG	ACGCAC	CGTGATG	TAAACGG	TTCAGTTCA	C Fad2-F (TA515) Q508
521	ACCCTTTTGGG	ACGCAC	CGTGATG	TAAACGG	TTCAGTTCA	C Fad2-F (GA908) Q4275

FIG. 2B

	570	580	590	600	
561	TCTCGGCTGGCCTTTGTACTTAGCCCTTCAACGTCTCGGGG	Fad2-D wt			
561	TCTCGGCTGGCCTTTGTACTTAGCCCTTCAACGTCTCGGGG	Fad2-D (GA316)	IMC129		
561	TCTCGGCTGGCCTTTGTACTTAGCCCTTCAACGTCTCGGGGA	Fad2-F wt			
561	TCTCGGCTGGCCTTTGTACTTAGCCCTTCAACGTCTCGGGGA	Fad2-F (TA515)	Q508		
561	TCTCGGCTGGCCTTTGTACTTAGCCCTTCAACGTCTCGGGGA	Fad2-F (GA908)	Q4275		
	610	620	630	640	
601	AGACCTTACGACGGCGGGCTTCGCTTGCCATTTCACCCCCA	Fad2-D wt			
601	AGACCTTACGACGGCGGGCTTCGCTTGCCATTTCACCCCCA	Fad2-D (GA316)	IMC129		
601	AGACCTTACGACGGCGGGCTTCGCTTGCCATTTCACCCCCA	Fad2-F wt			
601	AGACCTTACGACGGCGGGCTTCGCTTGCCATTTCACCCCCA	Fad2-F (TA515)	Q508		
601	AGACCTTACGACGGCGGGCTTCGCTTGCCATTTCACCCCCA	Fad2-F (GA908)	Q4275		
	650	660	670	680	
641	ACGCTCCCATCTACAACGACCGGTGAGCGTCTCCAGATATA	Fad2-D wt			
641	ACGCTCCCATCTACAACGACCGGTGAGCGTCTCCAGATATA	Fad2-D (GA316)	IMC129		
641	ACGCTCCCATCTACAACGACCGGTGAGCGTCTCCAGATATA	Fad2-F wt			
641	ACGCTCCCATCTACAACGACCGGTGAGCGTCTCCAGATATA	Fad2-F (TA515)	Q508		
641	ACGCTCCCATCTACAACGACCGGTGAGCGTCTCCAGATATA	Fad2-F (GA908)	Q4275		
	690	700	710	720	
681	CATCTCCGACGCTGGCATCCTCGCCGTCTGCTACGGTCTCTC	Fad2-D wt			
681	CATCTCCGACGCTGGCATCCTCGCCGTCTGCTACGGTCTCTC	Fad2-D (GA316)	IMC129		
681	CATCTCCGACGCTGGCATCCTCGCCGTCTGCTACGGTCTCTC	Fad2-F wt			
681	CATCTCCGACGCTGGCATCCTCGCCGTCTGCTACGGTCTCTC	Fad2-F (TA515)	Q508		
681	CATCTCCGACGCTGGCATCCTCGCCGTCTGCTACGGTCTCTC	Fad2-F (GA908)	Q4275		
	730	740	750	760	
721	TACCGCTACGCTGCTGTCCAAGGAGTTGCCCTCGATGGTCT	Fad2-D wt			
721	TACCGCTACGCTGCTGTCCAAGGAGTTGCCCTCGATGGTCT	Fad2-D (GA316)	IMC129		
721	TTCCGTTACGCCCGCCGCGCAGGGAGTGGCCTCGATGGTCT	Fad2-F wt			
721	TTCCGTTACGCCCGCCGCGCAGGGAGTGGCCTCGATGGTCT	Fad2-F (TA515)	Q508		
721	TTCCGTTACGCCCGCCGCGCAGGGAGTGGCCTCGATGGTCT	Fad2-F (GA908)	Q4275		
	770	780	790	800	
761	GCTTCTACGGAGTTCCTCTTCTGATTGTCAACGGGTTCCTT	Fad2-D wt			
761	GCTTCTACGGAGTTCCTCTTCTGATTGTCAACGGGTTCCTT	Fad2-D (GA316)	IMC129		
761	GCTTCTACGGAGTTCCTCTTCTGATTGTCAATGGTTTCCTT	Fad2-F wt			
761	GCTTCTACGGAGTTCCTCTTCTGATTGTCAATGGTTTCCTT	Fad2-F (TA515)	Q508		
761	GCTTCTACGGAGTTCCTCTTCTGATTGTCAATGGTTTCCTT	Fad2-F (GA908)	Q4275		
	810	820	830	840	
801	AGTTTTGATCACTTACTTGCAGCACACGCGATCCTTCCCTG	Fad2-D wt			
801	AGTTTTGATCACTTACTTGCAGCACACGCGATCCTTCCCTG	Fad2-D (GA316)	IMC129		
801	CGTGTTGATCACTTACTTGCAGCACACGCGATCCTTCCCTG	Fad2-F wt			
801	CGTGTTGATCACTTACTTGCAGCACACGCGATCCTTCCCTG	Fad2-F (TA515)	Q508		
801	CGTGTTGATCACTTACTTGCAGCACACGCGATCCTTCCCTG	Fad2-F (GA908)	Q4275		

FIG. 2C

	850	860	870	880	
841	CCTCACTATGACTCGTCTGAGTGGGATTGGTTGAGGGGAG	Fad2-D wt			
841	CCTCACTATGACTCGTCTGAGTGGGATTGGTTGAGGGGAG	Fad2-D (GA316)	IMC129		
841	CCTCACTACGATTTCGTCCGAGTGGGATTGGTTGAGGGGAG	Fad2-F wt			
841	CCTCACTACGATTTCGTCCGACTGGGATTGGTTGAGGGGAG	Fad2-F (TA515)	Q508		
841	CCTCACTACGATTTCGTCCGAGTGGGATTGGTTGAGGGGAG	Fad2-F (GA908)	Q4275		
	890	900	910	920	
881	CTTTGGCCACCGTTGACAGAGACTACCGAATCTTGAACAA	Fad2-D wt			
881	CTTTGGCCACCGTTGACAGAGACTACCGAATCTTGAACAA	Fad2-D (GA316)	IMC129		
881	CTTTGGCTACCGTTGACAGAGACTACCGAATCTTGAACAA	Fad2-F wt			
881	CTTTGGCTACCGTTGACAGAGACTACCGAATCTTGAACAA	Fad2-F (TA515)	Q508		
881	CTTTGGCTACCGTTGACAGAGACTACGAAATCTTGAACAA	Fad2-F (GA908)	Q4275		
	930	940	950	960	
921	GGTCTTCCACAATATCACGGACACGGCACGTTGGCGCATCAC	Fad2-D wt			
921	GGTCTTCCACAATATCACGGACACGGCACGTTGGCGCATCAC	Fad2-D (GA316)	IMC129		
921	GGTCTTCCACAATATTACCGACACGGCACGTTGGCGCATCAT	Fad2-F wt			
921	GGTCTTCCACAATATTACCGACACGGCACGTTGGCGCATCAT	Fad2-F (TA515)	Q508		
921	GGTCTTCCACAATATTACCGACACGGCACGTTGGCGCATCAT	Fad2-F (GA908)	Q4275		
	970	980	990	1000	
961	CTGTTCTCGACCATGCCGCAATTATCATGCGATGGAAGCTA	Fad2-D wt			
961	CTGTTCTCGACCATGCCGCAATTATCATGCGATGGAAGCTA	Fad2-D (GA316)	IMC129		
961	CTGTTCTCCACGATGCCGCAATTATCACGCGATGGAAGCTA	Fad2-F wt			
961	CTGTTCTCCACGATGCCGCAATTATCACGCGATGGAAGCTA	Fad2-F (TA515)	Q508		
961	CTGTTCTCCACGATGCCGCAATTATCACGCGATGGAAGCTA	Fad2-F (GA908)	Q4275		
	1010	1020	1030	1040	
1001	CGAAGGCGGATAAAGCCGATACTGGGAGAGTATTATCAGTT	Fad2-D wt			
1001	CGAAGGCGGATAAAGCCGATACTGGGAGAGTATTATCAGTT	Fad2-D (GA316)	IMC129		
1001	CCAAGGCGGATAAAGCCGATACTGGGAGAGTATTATCAGTT	Fad2-F wt			
1001	CCAAGGCGGATAAAGCCGATACTGGGAGAGTATTATCAGTT	Fad2-F (TA515)	Q508		
1001	CCAAGGCGGATAAAGCCGATACTGGGAGAGTATTATCAGTT	Fad2-F (GA908)	Q4275		
	1050	1060	1070	1080	
1041	CGATGGGACGCCCGGTGGTTAAGGCGATGTGGAGGGAGGGCG	Fad2-D wt			
1041	CGATGGGACGCCCGGTGGTTAAGGCGATGTGGAGGGAGGGCG	Fad2-D (GA316)	IMC129		
1041	CGATGGGACGCCCGGTGGTTAAGGCGATGTGGAGGGAGGGCG	Fad2-F wt			
1041	CGATGGGACGCCCGGTGGTTAAGGCGATGTGGAGGGAGGGCG	Fad2-F (TA515)	Q508		
1041	CGATGGGACGCCCGGTGGTTAAGGCGATGTGGAGGGAGGGCG	Fad2-F (GA908)	Q4275		
	1090	1100	1110	1120	
1081	AAGGAGTGTATCTATGTGGAACCGGACAGGCAAGGTGAGA	Fad2-D wt			
1081	AAGGAGTGTATCTATGTGGAACCGGACAGGCAAGGTGAGA	Fad2-D (GA316)	IMC129		
1081	AAGCAGTGTATCTATGTGGAACCGGACAGGCAAGGTGAGA	Fad2-F wt			
1081	AAGGAGTGTATCTATGTGGAACCGGACAGGCAAGGTGAGA	Fad2-F (TA515)	Q508		
1081	AAGCAGTGTATCTATGTGGAACCGGACAGGCAAGGTGAGA	Fad2-F (GA908)	Q4275		

FIG. 2D

	1130	1140	1150
1121	AGAAAGGTGTGTTCTGGTACAACAATAAGTTATGA		
1121	AGAAAGGTGTGTTCTGGTACAACAATAAGTTATGA		
1121	AGAAAGGTGTGTTCTGGTACAACAATAAGTTATGA		
1121	AGAAAGGTGTGTTCTGGTACAACAATAAGTTATGA		
1121	AGAAAGGTGTGTTCTGGTACAACAATAAGTTATGA		

Fad2-D wt
 Fad2-D (GA316) TMC129
 Fad2-F wt
 Fad2-F (TA515) Q508
 Fad2-F (GA908) Q4275

FIG. 2E

105270-4067469

	150	160	
421	His Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys	Fad2-D wt	
421	His Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys	Fad2-D (GA316)	IMC129
421	His Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys	Fad2-F wt	
421	His Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys	Fad2-F (TA515)	Q508
421	His Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys	Fad2-F (GA908)	Q4275
	170	180	
481	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val	Fad2-D wt	
481	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val	Fad2-D (GA316)	IMC129
481	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val	Fad2-F wt	
481	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr His Asn Asn Pro Leu Gly Arg Thr Val	Fad2-F (TA515)	Q508
481	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val	Fad2-F (GA908)	Q4275
	190	200	
541	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly	Fad2-D wt	
541	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly	Fad2-D (GA316)	IMC129
541	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly	Fad2-F wt	
541	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly	Fad2-F (TA515)	Q508
541	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly	Fad2-F (GA908)	Q4275
	210	220	
601	Arg Pro Tyr Asp Gly Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp	Fad2-D wt	
601	Arg Pro Tyr Asp Gly Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp	Fad2-D (GA316)	IMC129
601	Arg Pro Tyr Asp Gly Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp	Fad2-F wt	
601	Arg Pro Tyr Asp Gly Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp	Fad2-F (TA515)	Q508
601	Arg Pro Tyr Asp Gly Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp	Fad2-F (GA908)	Q4275
	230	240	
661	Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu	Fad2-D wt	
661	Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu	Fad2-D (GA316)	IMC129
661	Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu	Fad2-F wt	
661	Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu	Fad2-F (TA515)	Q508
661	Arg Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu	Fad2-F (GA908)	Q4275
	250	260	
721	Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu	Fad2-D wt	
721	Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu	Fad2-D (GA316)	IMC129
721	Phe Arg Tyr Ala Ala Ala Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu	Fad2-F wt	
721	Phe Arg Tyr Ala Ala Ala Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu	Fad2-F (TA515)	Q508
721	Phe Arg Tyr Ala Ala Ala Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu	Fad2-F (GA908)	Q4275
	270	280	
781	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu	Fad2-D wt	
781	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu	Fad2-D (GA316)	IMC129
781	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu	Fad2-F wt	
781	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu	Fad2-F (TA515)	Q508
781	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu	Fad2-F (GA908)	Q4275

FIG. 3B

	290	300	
841	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg	Fad2-D wt	
841	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg	Fad2-D (GA316)	IMC129
841	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg	Fad2-F wt	
841	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg	Fad2-F (TA515)	Q508
841	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg	Fad2-F (GA908)	Q4275
	310	320	
901	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His	Fad2-D wt	
901	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His	Fad2-D (GA316)	IMC129
901	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His	Fad2-F wt	
901	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His	Fad2-F (TA515)	Q508
901	Asp Tyr Glu Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His	Fad2-F (GA908)	Q4275
	330	340	
961	Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala Ile Lys Pro Ile	Fad2-D wt	
961	Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala Ile Lys Pro Ile	Fad2-D (GA316)	IMC129
961	Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala Ile Lys Pro Ile	Fad2-F wt	
961	Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala Ile Lys Pro Ile	Fad2-F (TA515)	Q508
961	Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala Ile Lys Pro Ile	Fad2-F (GA908)	Q4275
	350	360	
1021	Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala	Fad2-D wt	
1021	Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala	Fad2-D (GA316)	IMC129
1021	Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala	Fad2-F wt	
1021	Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala	Fad2-F (TA515)	Q508
1021	Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala	Fad2-F (GA908)	Q4275
	370	380	
1081	Lys Glu Cys Ile Tyr Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr	Fad2-D wt	
1081	Lys Glu Cys Ile Tyr Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr	Fad2-D (GA316)	IMC129
1081	Lys Glu Cys Ile Tyr Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr	Fad2-F wt	
1081	Lys Glu Cys Ile Tyr Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr	Fad2-F (TA515)	Q508
1081	Lys Glu Cys Ile Tyr Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr	Fad2-F (GA908)	Q4275
1141	Asn Asn Lys Leu ter	Fad2-D wt	
1141	Asn Asn Lys Leu ter	Fad2-D (GA316)	IMC129
1141	Asn Asn Lys Leu ter	Fad2-F wt	
1141	Asn Asn Lys Leu ter	Fad2-F (TA515)	Q508
1141	Asn Asn Lys Leu ter	Fad2-F (GA908)	Q4275

FIG. 3C